CLAIMS

What is claimed is:

1. An air stream distribution apparatus comprising:

a base configured to couple with a circuit board, the base defining a first end and a second end; and

a plurality of deflectors in communication with the base and arranged in series between the first end and the second end defined by the base, each of the plurality of deflectors defining a leading edge, the leading edge of each of the plurality of deflectors defining a height relative to a plane defined by the base, the height defined by the leading edge of each deflector increasing along an air stream direction between the first end and the second end defined by the base, each of the plurality of deflectors configured to direct a corresponding portion of an air stream toward a respective area of the circuit board.

2. The air stream distribution apparatus of claim 1 wherein each deflector of the plurality of deflectors defines an angle relative to the plane defined by the base, the angle of each deflector increasing, relative to the plane defined by the base, along the air stream direction between the first end and the second end defined by the base.

3. The air stream distribution apparatus of claim 1 wherein the each deflector of the plurality of deflectors defines a trailing edge, a distance between the leading edge and the trailing edge defining a deflector length, the deflector length of each deflector increasing along the air stream direction between the first end and the second end defined by the base.

4. The air stream distribution apparatus of claim 1 wherein the leading edge defined by at least one deflector of the plurality of deflectors further defines a first thickness and

wherein the at least one deflector defines a trailing edge further defining a second thickness, the second thickness of the trailing edge less than the first thickness of the leading edge.

5. The air stream distribution apparatus of claim 4 wherein the leading edge defined by the at least one deflector further defines a substantially rounded edge and wherein the trailing edge defined by the at least one deflector further defines a substantially tapered edge.

6. An air stream distribution assembly comprising:

at least one circuit board component configured to couple to a circuit board; and

an air stream distribution apparatus having:

a base configured to couple with the circuit board, the base defining a first end and a second end, and

a plurality of deflectors in communication with the base and arranged in series between the first end and the second end defined by the base, each of the plurality of deflectors defining a leading edge, the leading edge of each of the plurality of deflectors defining a height relative to a plane defined by the base, the height defined by the leading edge of each deflector increasing along an air stream direction between the first end and the second end defined by the base, each of the plurality of deflectors configured to direct a corresponding portion of an air stream toward the at least one circuit board component.

7. The air stream distribution assembly of claim 6 wherein each deflector of the plurality of deflectors defines an angle relative to the plane defined by the base, the angle of each deflector increasing, relative to the plane defined by the base, along the air stream direction between the first end and the second end defined by the base.

8. The air stream distribution assembly of claim 6 wherein the each deflector of the plurality of deflectors defines a trailing edge, a distance between the leading edge and the trailing edge defining a deflector length, the deflector length of each deflector increasing along the air stream direction between the first end and the second end defined by the base.

9. The air stream distribution assembly of claim 6 wherein the leading edge defined by at least one deflector of the plurality of deflectors further defines a first thickness and wherein the at least one deflector defines a trailing edge further defining a second thickness, the second thickness of the trailing edge less than the first thickness of the leading edge.

10. The air stream distribution apparatus of claim 9 wherein the leading edge defined by the at least one deflector further defines a substantially rounded edge and wherein the trailing edge defined by the at least one deflector further defines a substantially tapered edge.

11. The air stream distribution assembly of claim 6 wherein the at least one circuit board component comprises at least one transceiver module removeably coupled to the support and wherein each of the plurality of deflectors are configured to direct the corresponding portion of the air stream toward the at least one transceiver module.

12. A circuit board assembly comprising:

a circuit board;

at least one circuit board component coupled to the circuit board; and

an air stream distribution apparatus having:

a base configured to couple with the circuit board, the base defining a first end and a second end, and

a plurality of deflectors in communication with the base and arranged in series between the first end and the second end defined by the base, each of the plurality of deflectors defining a leading edge, the leading edge of each of the plurality of deflectors defining a height relative to a plane defined by the base, the height defined by the leading edge of each deflector increasing along an air stream direction between the first end and the second end defined by the base, each of the plurality of deflectors configured to direct a corresponding portion of an air stream toward the at least one circuit board component.

13. The circuit board assembly of claim 12 wherein each deflector of the plurality of deflectors defines an angle relative to the plane defined by the base, the angle of each deflector increasing, relative to the plane defined by the base, along the air stream direction between the first end and the second end defined by the base.

14. The circuit board assembly of claim 12 wherein the each deflector of the plurality of deflectors defines a trailing edge, a distance between the leading edge and the trailing edge defining a deflector length, the deflector length of each deflector increasing along the air stream direction between the first end and the second end defined by the base.

15. The circuit board assembly of claim 12 wherein the leading edge defined by at least one deflector of the plurality of deflectors further defines a first thickness and wherein the at least one deflector defines a trailing edge further defining a second thickness, the second thickness of the trailing edge less than the first thickness of the leading edge.

16. The circuit board assembly of claim 15 wherein the leading edge defined by the at least one deflector further defines a substantially rounded edge and wherein the trailing edge defined by the at least one deflector further defines a substantially tapered edge.

17. The circuit board assembly of claim 12 wherein the at least one circuit board component comprises at least one transceiver module removeably coupled to the circuit board and wherein each of the plurality of deflectors are configured to direct the corresponding portion of the air stream toward the at least one transceiver module.

18. A computer system comprising:

a frame;

a fan assembly coupled to the frame and configured to generate an air stream; and

at least one circuit board assembly coupled to the frame, the circuit board assembly having:

a circuit board,

at least one circuit board component coupled to the circuit board, and

an air stream distribution apparatus having:

a base configured to couple with the circuit board, the base defining a first end and a second end; and

a plurality of deflectors in communication with the base and arranged in series between the first end and the second end defined by the base, each of the plurality of deflectors defining a leading edge, the leading edge of each of the plurality of deflectors defining a height relative to a plane defined by the base, the height defined by the leading edge of each deflector increasing along an air stream direction between the first end and the second end defined by the base, each of the plurality of deflectors configured to direct a corresponding portion of an air stream toward the at least one circuit board component.

19. A method for manufacturing an air stream distribution apparatus comprising:

forming, from a material, a base configured to couple with a circuit board, the base defining a first end and a second end; and

forming, from the material, a plurality of deflectors in communication with the base and arranged in series between the first end and the second end defined by the base, each of the plurality of deflectors defining a leading edge, the leading edge of each of the plurality of deflectors defining a height relative to a plane defined by the base, the height defined by the leading edge of each deflector increasing along an air stream direction between the first end and the second end defined by the base, each of the plurality of deflectors configured to direct a corresponding portion of an air stream toward a respective area of the circuit board.

20. The method of claim 19 comprising forming each deflector of the plurality of deflectors at an angle relative to the plane defined by the base, the angle of each deflector increasing, relative to the plane defined by the base, along the air stream direction between the first end and the second end defined by the base.

21. The method of claim 19 comprising, forming a trailing edge for each deflector of the plurality of deflectors, a distance between the leading edge and the trailing edge defining a deflector length, the deflector length of each deflector increasing along the air stream direction between the first end and the second end defined by the base.

22. The method of claim 19 comprising forming the leading edge of at least one deflector of the plurality of deflectors as having a first thickness and forming a trailing edge of the at least one deflector as having a second thickness, the second thickness of the trailing edge being less than the first thickness of the leading edge.

23. The method of claim 19 further comprising, when forming the leading edge, forming a substantially rounded edge and, when forming the trailing edge, forming a substantially tapered edge.